

IN THE CLAIMS:

The text of all pending claims are set forth below. Cancelled and withdrawn claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (previously amended), (cancelled), (withdrawn), (new), (previously added), (reinstated - formerly claim #), (previously reinstated), (re-presented - formerly dependent claim #) or, (previously re-presented).

Please CANCEL claim 1-10, and ADD new claims 11-30 in accordance with the following:

1-10 (cancelled)

11. (new) A method for data transmission in a wireless communication system, comprising:

emitting a subscriber data signal assigned to a subscriber from at least two antenna devices using a diversity method;

emitting a reference signal assigned to the subscriber from only one of the at least two antenna devices; and

measuring propagation delay of the reference signal to determine runtime critical system parameters for a positional determination of the subscriber.

12. (new) The method according to Claim 11, wherein the reference signal is emitted periodically at predefined time intervals.

13. (new) The method according to Claim 11, wherein the reference signal is emitted aperiodically at time intervals selected at random.

14. (new) The method according to Claim 11, wherein the antenna device used to send the reference signal is switched between the at least two antenna devices.

15. (new) The method according to Claim 14, wherein
when the antenna device used to send the reference signal is switched, the propagation delay is compared for the at least two antenna devices, and
for future propagation delay measurements, the antenna device used to send the reference signal is selected to be the antenna device associated the smaller propagation delay

16. (new) The method according to Claim 14, wherein
when the antenna device used to send the reference signal is switched, a comparison is
made, and
for future propagation delay measurements, the antenna device most closely within line-
of-sight of the subscriber is selected.

17. (new) The method according to Claim 11, wherein the positional determination is
performed with a timing advance mechanism.

18. (new) The method according to Claim 11, wherein the subscriber data signal and the
reference signal are transmitted using a time division multiple access method.

19. (new) The method according to Claim 18, wherein the reference signal is a training
sequence transmitted in a time slot used for synchronization.

20. (new) The method according to Claim 19, wherein
the wireless communication system is a GSM mobile radio system, and
an extended training sequence of a synchronization time slot is used as the reference
signal.

21. (new) The method according to Claim 11, wherein
the reference signal is selected from a plurality of manufacturer-specific reference
signals, and
the manufacturer-specific reference signals are stored on a transmit side in a table.

22. (new) The method according to Claim 11, wherein the at least two antenna devices
have polarizations orthogonal to one another.

23. (new) The method according to Claim 11, wherein the at least two antenna devices
have the same polarization, but are at a fixed distance from one another.

24. (new) The method according to Claim 12, wherein the antenna device used to send

the reference signal is switched between the at least two antenna devices.

25. (new) The method according to Claim 15, wherein the positional determination is performed with a timing advance mechanism.

26. (new) The method according to Claim 25, wherein the subscriber data signal and the reference signal are transmitted using a time division multiple access method.

27. (new) The method according to Claim 26, wherein the reference signal is a training sequence transmitted in a time slot used for synchronization.

28. (new) The method according to Claim 27, wherein
the wireless communication system is a GSM mobile radio system, and
an extended training sequence of a synchronization time slot is used as the reference signal.

29. (new) The method according to Claim 28, wherein
the reference signal is selected from a plurality of manufacturer-specific reference signals, and
the manufacturer-specific reference signals are stored on a transmit side in a table.

30. (new) The method according to Claim 29, wherein the at least two antenna devices have polarizations orthogonal to one another.